

**York County Jail
York County
Alfred, Maine
A-848-71-A-N**

**Departmental
Findings of Fact and Order
Air Emission License**

After review of the air emissions license application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

York County Jail (YCY) located in Alfred, Maine has applied for an Air Emission License permitting the operation of emission sources associated with their correctional facility.

B. Emission Equipment

YCY is licensed to operate the following equipment:

Fuel Burning Equipment

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate (gal/hr)</u>	<u>Fuel Type, % sulfur</u>	<u>Stack #</u>
Boiler #1	8.0	57.1	#2 oil, 0.35%	1
Boiler #2	8.0	57.1	#2 oil, 0.35%	2

Electrical Generation Equipment

<u>Equipment</u>	<u>Power Output (kW)</u>	<u>Firing Rate (gal/hr)</u>	<u>Fuel Type, % sulfur</u>	<u>Stack #</u>
Generator #1	1500	103.6	#2 oil, 0.35%	N/A

C. Application Classification

A new source is considered a major source based on whether or not expected emissions exceed the "Significant Emission Levels" as given in Maine's Air Regulations. The emissions for the new source are determined by the maximum

future license allowed emissions, as follows:

<u>Pollutant</u>	<u>Max. Future License (TPY)</u>	<u>Sig. Level</u>
PM	3.4	100
PM ₁₀	3.4	100
SO ₂	10.0	100
NO _x	19.5	100
CO	4.4	100
VOC	1.4	50

This source is determined to be a minor new source and has been processed as such.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in Chapter 100 of the Air Regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in Chapter 100 of the Air Regulations. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

B. Boilers

Boilers #1, and #2, are Bryan boilers manufactured in 2002 with a maximum heat input of 8.0 MMBtu/hr each. The boilers provide heat and hot water to the facility. Since the heat input of these boilers are less than 10 MMBtu/hr, they are not subject to New Source Performance Standards (NSPS) 40 CFR Part 60 Subpart Dc for boilers with a heat input of 10 MMBtu/hr or greater and constructed after June 9, 1989.

A summary of the BACT analysis for Boilers #1, and #2, is the following:

1. The total fuel use for Boilers #1 and #2 shall not exceed 350,000 gal/year of #2 fuel oil, based on a 12 month rolling total, with a maximum sulfur content not to exceed 0.35% by weight.

2. Chapter 106 regulates fuel sulfur content, however in this case a BACT analysis for SO₂ determined a more stringent limit of 0.35% was appropriate and shall be used.
3. Chapter 103 regulates PM emission limits and for new sources greater than 3 MMBtu/hour the limit of 0.12 lb/MMBtu shall be used. The PM₁₀ limits are derived from the PM limits.
4. SO₂, NO_x, CO and VOC emission limits are based on EPA AP-42 data dated 9/98 for boilers <100MMBtu/hr firing distillate with a sulfur content of 0.35% by weight.
5. Visible emissions from each boiler shall not exceed 20% opacity on a 6-minute block average.

C. Emergency Generator

Generator #1 is a Cummins 1500 KW (14.5 MMBtu/hr) generator manufactured in 2002. Generator #1 is used to provide emergency back-up power for the facility. Generator #1 is set up to draw fuel from the same tank as the boilers. A summary of the BACT analysis for Generator #1 is the following:

1. BACT for fuel sulfur content of a generator capable of firing diesel fuel is 0.05% by weight. However the cost associated with constructing, operating and maintaining a separate storage tank for the generator is not economically justified considering the generators limited use and the small difference in sulfur emissions. Therefore a limit of 0.35% sulfur by weight is justified and shall be used.
2. The emergency generator shall be limited to 500 hr/yr of operation based on a 12 month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours. Based on 500 hours of operation per year the generator shall not exceed 51,800 gal/year of #2 fuel oil, based on a 12 month rolling total.
3. Chapter 103 regulates PM emission limits and for new sources greater than 3 MMBtu/hour and a limit of 0.12 lb/MMBtu shall be used. The PM₁₀ limits are derived from the PM limits.
4. NO_x, CO, and VOC emission limits are based upon EPA AP-42 data dated 10/96 for diesel industrial engines. This assumes firing #2 fuel oil is equivalent to firing diesel fuel.
5. The SO₂ emission limit is based on mass balance and uses a 0.35% sulfur content by weight for #2 fuel oil and shall be 0.35 lb/MMBtu
6. Visible emissions from the generator shall not exceed 20% opacity on a 6 minute block average

D. Annual Emission Restrictions

YCJ shall not exceed 401,800 gallons of #2 oil, with a maximum sulfur content not to exceed 0.35% by weight, to be fired in Boiler #1 and #2 and emergency generator #1 based on a 12 month rolling total. YCJ shall not operate emergency

generator #1 more than 500 hours per 12 month rolling year. YCJ shall be restricted to the following annual emissions, based on a 12 month rolling total:

Total Allowable Annual Emission for the Facility
(used to calculate the annual license fee)

<u>Pollutant</u>	<u>Tons/Year</u>
PM	3.4
PM ₁₀	3.4
SO ₂	10.0
NO _x	19.5
CO	4.4
VOC	1.4

III.AMBIENT AIR QUALITY ANALYSIS

According to the Maine Regulations Chapter 115, the level of air quality analyses required for a minor new source shall be determined on a case-by case basis.

Based on the information available in the file, and the similarity to existing sources, Maine Ambient Air Quality Standards (MAAQS) will not be violated by this source.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-848-71-A-N subject to the following conditions:

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions.
(Title 38 MRSA § 347-C)

- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115.
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both.
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request.
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. § 353.
- (6) The license does not convey any property rights of any sort, or any exclusive privilege.
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions.
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request.
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license.
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license.

- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
- (i) perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
 - a. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
 - b. pursuant to any other requirement of this license to perform stack testing.
 - (ii) install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
 - (iii) submit a written report to the Department within thirty (30) days from date of test completion.
- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
- (i) within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
 - (ii) the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
 - (iii) the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.

- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement.
- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation.
- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status.
- (16) **Boilers**
- A. Total fuel use for Boilers #1 and #2 shall not exceed 350,000 gal/year of #2 fuel oil (12 month rolling total) with a maximum sulfur content not to exceed 0.35% by weight.

B. Emissions from boilers #1 and #2 shall not exceed the following:

Equipment		PM	PM ₁₀	SO ₂	NO _x	CO	VOC
Boiler #1	lb/MMBtu	0.12	-	-	-	-	-
	lb/hr	0.96	0.96	2.83	1.14	0.29	0.019
Boiler #2	lb/MMBtu	0.12	-	-	-	-	-
	lb/hr	0.96	0.96	2.83	1.14	0.29	0.019

C. Visible emissions from Boilers #1, and #2, shall not exceed 20% opacity on a 6-minute block average.

(17) **Emergency Generator**

- A. Generator #1 shall not operate more than 500 hr/year based on a 12 month rolling total. An hour meter shall be operated and maintained. YCJ shall only operate Generator #1 for emergency use.
- B. A written log shall be maintained documenting the dates, times and reasons for use each time emergency generator #1 is used.
- C. Total fuel use for generator #1 shall not exceed 51,800 gal/year of #2 fuel oil (12 month rolling total) with a maximum sulfur content not to exceed 0.35% by weight. Fuel use by generator #1 shall be documented in the fuel use log.
- D. Emissions from Emergency Generator #1 shall not exceed the following:

Equipment		PM	PM ₁₀	SO ₂	NO _x	CO	VOC
Generator #1	lb/MMBtu	0.12	-	-	-	-	-
	lb/hr	1.74	1.74	5.08	63.96	13.78	5.22

- E. Visible emissions from Generator #1 shall not exceed 20% opacity on a 6-minute block average.
- (18) YCJ shall not exceed firing 401,800 gallons per year of #2 fuel oil, based on a 12 month rolling total, and with a sulfur content not to exceed 0.35% by weight, in Boiler #1 and #2 and Emergency Generator #1. YCJ shall not exceed firing 350,000 gallons of this fuel cap in boilers #1 and #2. YCJ shall not exceed firing 51,800 gallons of this fuel cap in emergency generator #1. Compliance shall be demonstrated by fuel records, including purchase receipts from the supplier showing quantity of fuel delivered, the percent sulfur of the fuel, and the date of delivery. Fuel use records shall be maintained in a log on a monthly basis, in addition to the 12-month rolling total.
- (19) YCJ shall pay the annual air emission fee within 30 days of January 31 of each year. Pursuant to 38 MRSA §353-A, failure to pay this annual fee in the stated timeframe is sufficient grounds for revocation of the license under 38 MRSA §341-D, subsection 3.

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(20) The term of this Order shall be for five (5) years from the signature below.

DONE AND DATED IN AUGUSTA, MAINE THIS DAY OF 2003.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
BROOKE E. BARNES, ACTING COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 11/20/02

Date of application acceptance: 12/02/02

Date filed with the Board of Environmental Protection: _____

This Order prepared by Jeffrey C. Kalinich, Bureau of Air Quality.